

*Universal Multiple-Octet Coded Character Set*  
*International Organization for Standardization*

**Document Type: Working Group Document**

**Title: Proposal to add a block of *CJK Basic Strokes* to the UCS**

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**Status: Individual Contribution**

**Action: For consideration by JTC1/SC2/WG2 and UTC**

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This document presents four new tabulations of the CJK Basic Strokes proposed in N2817 = L2/04-221 (see also L2/03-387 = IRGN986, L2/03-404 = IRGN985, and L2/03-420 = IRGN987). The repertory presented here is identical with that proposed in N2817 (and given with analysis and supporting forms in IRGN987), with the addition of item “24\*” from HKSCS (see note 2 on page 2 below).

On the basis of the draft mappings assigned in “04287-n2832-pdam1-sum.pdf”, we distinguish between the 16 CJK Basic Strokes which already have mappings in *pdam1*, and those 24 which do not. This information is given in the following two tables:

Table 1, “24 CDL Additions to the CJK Basic Strokes Block,” beginning on page 3, and

Table 2, “Repertory of the CJK Basic Strokes Block,” beginning on page 5.

Addition of these 24 CJK Basic Strokes results in a total of 40 characters assigned to the new block.

Table 3, “Consolidated Repertory, Unified Order,” beginning on page 9, presents all characters for the new block in the the traditional “five-types” arrangement explained in the analysis given in L2/03-420 = IRGN987. This arrangement has several advantages over the random order that would result from the assignments given in *pdam1*. It will be easier for users to locate a needed character by consulting a traditionally ordered code chart. Related stroke types are found near one another, and common stroke types are listed before uncommon ones. There are also implications for sorting, since when using the order given in Table 3 and Table 4 sorting by code point results in a traditional “five-types” sort order (no external sorting table will be required).



























Table 4, “CJK Basic Strokes: Unified Repertory, Ordering, and Names,” beginning on page 13, lays out the full block of *CJK Basic Strokes*, in the preferred order, with corrected names (see notes 1 and 3 below), in code chart format.

***Executive Summary: See Table 4 on page 13.***

*Notes*

1. The name “SW” assigned to U+31C4 (item 18) in Table 2 reflects a correction of *pdam1*. According to the glyph shapes, the name “SZ” is properly assigned to U+31DD in Table 1 .
2. Item “24\*” in Table 2 is not from the CJK Basic Strokes proposed in L2/04-221, but derives from the set of HKSCS PUA characters (see N2832, N2807, N2808; IRGN1024=L2/04-161). In the CDL system this stroke was recognized as a non-distinctive variant in *Song*-style text of item 32 “SWG”. It is however distinctive in *Kai*, and strictly speaking, is not a *Song* stroke at all, but a *Kai* stroke (within *Kai* itself both 24\* and 32 are distinguished; 24\* is the only stroke type unique to the *Kai* style). It is introduced into the current proposal to accomodate the HKSCS character. Its position after “24” as a type-5 stroke reflects the close graphical relation of these two strokes, both of which have a single *zhe* ‘bend’ and 3 control points (see the *CDL Specification*, IRGN987).
3. Rather than naming item 24\* “XG-2”, we propose using the name “WOG” (short for 馱鉤 *wogou*, the Chinese name for this stroke), which would be consistent with the CDL naming conventions of the other strokes.
4. Table 1 assigns UCS mappings to the new characters sequentially, beginning with the first open slot in *pdam1*, i.e. U+31D0.
5. Table 2 leaves the new characters with mappings “----”, so that they are visusally distinct.
6. Table 3 presents the consolidated repertory in the preferred order. Consult this table for conversion of the *pdam1* mappings to the current mappings.
7. In Tables 1, 2 and 3 the “#” column contains the numbers from the original proposal (N2817).
8. The most recent draft of *CDL Specification* documents may be found on the web at <<http://www.wenlin.com/cdl/>>.



























**Table 1: 24 CDL Additions to the CJK Basic Strokes Block**

#	USV	Form	Unified	Name
1	<b>31D0</b>			CJK BASIC STROKE H
3	<b>31D1</b>		 /	CJK BASIC STROKE S
4	<b>31D2</b>			CJK BASIC STROKE SG
5	<b>31D3</b>			CJK BASIC STROKE P
6	<b>31D4</b>			CJK BASIC STROKE WP
7	<b>31D5</b>			CJK BASIC STROKE SP
8	<b>31D6</b>		 /	CJK BASIC STROKE D
10	<b>31D7</b>			CJK BASIC STROKE DN
11	<b>31D8</b>			CJK BASIC STROKE PN
12	<b>31D9</b>			CJK BASIC STROKE TN
13	<b>31DA</b>			CJK BASIC STROKE TPN
14	<b>31DB</b>			CJK BASIC STROKE HZ
16	<b>31DC</b>			CJK BASIC STROKE HG
























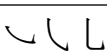


**Table 1: 24 CDL Additions to the CJK Basic Strokes Block**

#	USV	Form	Unified	Name
17	<b>31DD</b>		└┘	CJK BASIC STROKE SZ
19	<b>31DE</b>		↓	CJK BASIC STROKE ST
20	<b>31DF</b>		┘	CJK BASIC STROKE PZ
21	<b>31E0</b>		㇇	CJK BASIC STROKE PD
22	<b>31E1</b>		㇈	CJK BASIC STROKE PG
29	<b>31E2</b>		㇉	CJK BASIC STROKE HXG
30	<b>31E3</b>		㇊	CJK BASIC STROKE SZZ
31	<b>31E4</b>		㇋㇌	CJK BASIC STROKE SZP
32	<b>31E5</b>		㇍	CJK BASIC STROKE SWG
38	<b>31E6</b>		㇎	CJK BASIC STROKE HZZZG
39	<b>31E7</b>		○	CJK BASIC STROKE O














**Table 2: Repertory of the CJK Basic Strokes Block**

#	PDAMI	Form	Unified	Name
1	----			CJK BASIC STROKE H
2	<b>31C0</b>			CJK BASIC STROKE T
3	----			CJK BASIC STROKE S
4	----			CJK BASIC STROKE SG
5	----			CJK BASIC STROKE P
6	----			CJK BASIC STROKE WP
7	----			CJK BASIC STROKE SP
8	----			CJK BASIC STROKE D
9	<b>31CF</b>			CJK BASIC STROKE N
10	----			CJK BASIC STROKE DN
11	----			CJK BASIC STROKE PN
12	----			CJK BASIC STROKE TN
13	----			CJK BASIC STROKE TPN



**Table 2: Repertory of the CJK Basic Strokes Block**

#	PDAMI	Form	Unified	Name
14	----			CJK BASIC STROKE HZ
15	<b>31C7</b>			CJK BASIC STROKE HP
16	----			CJK BASIC STROKE HG
17	----			CJK BASIC STROKE SZ
18	<b>31C4</b>			CJK BASIC STROKE SW
19	----			CJK BASIC STROKE ST
20	----			CJK BASIC STROKE PZ
21	----			CJK BASIC STROKE PD
22	----			CJK BASIC STROKE PG
23	<b>31C1</b>			CJK BASIC STROKE WG
24	<b>31C2</b>			CJK BASIC STROKE XG
24*	<b>31C3</b>			CJK BASIC STROKE WOG
25	<b>31C5</b>			CJK BASIC STROKE HZZ

**Table 2: Repertory of the CJK Basic Strokes Block**



























#	PDAMI	Form	Unified	Name
26	<b>31CD</b>		㇀	CJK BASIC STROKE HZW
27	<b>31CA</b>		㇁	CJK BASIC STROKE HZT
28	<b>31C6</b>		㇂㇃㇄	CJK BASIC STROKE HZG
29	----		㇅	CJK BASIC STROKE HXG
30	----		㇆	CJK BASIC STROKE SZZ
31	----		㇇㇈	CJK BASIC STROKE SZP
32	----		㇉	CJK BASIC STROKE SWG
33	<b>31CE</b>		㇊	CJK BASIC STROKE HZZZ
34	<b>31CB</b>		㇋	CJK BASIC STROKE HZZP
35	<b>31C8</b>		㇌㇍	CJK BASIC STROKE HZWG
36	<b>31CC</b>		㇎	CJK BASIC STROKE HPWG
37	<b>31C9</b>		㇏	CJK BASIC STROKE SZZG
38	----		㇐	CJK BASIC STROKE HZZZG

**Table 2: Repertory of the CJK Basic Strokes Block**

#	<i>PDAMI</i>	<i>Form</i>	<i>Unified</i>	<i>Name</i>
39	-----			CJK BASIC STROKE O



**Table 3: Consolidated Repertory, Unified Order**

#	<i>PDAMI</i>	<i>USV</i>	<i>Form</i>	<i>Unified</i>	<i>Name</i>
1	----	<b>31C0</b>			CJK BASIC STROKE H
2	<b>31C0</b>	<b>31C1</b>			CJK BASIC STROKE T
3	----	<b>31C2</b>		 /	CJK BASIC STROKE S
4	----	<b>31C3</b>			CJK BASIC STROKE SG
5	----	<b>31C4</b>			CJK BASIC STROKE P
6	----	<b>31C5</b>			CJK BASIC STROKE WP
7	----	<b>31C6</b>			CJK BASIC STROKE SP
8	----	<b>31C7</b>		 /	CJK BASIC STROKE D
9	<b>31CF</b>	<b>31C8</b>			CJK BASIC STROKE N
10	----	<b>31C9</b>			CJK BASIC STROKE DN
11	----	<b>31CA</b>			CJK BASIC STROKE PN
12	----	<b>31CB</b>			CJK BASIC STROKE TN
13	----	<b>31CC</b>			CJK BASIC STROKE TPN

**Table 3: Consolidated Repertory, Unified Order**

#	PDAMI	USV	Form	Unified	Name
14	----	<b>31CD</b>			CJK BASIC STROKE HZ
15	<b>31C7</b>	<b>31CE</b>			CJK BASIC STROKE HP
16	----	<b>31CF</b>			CJK BASIC STROKE HG
17	----	<b>31D0</b>			CJK BASIC STROKE SZ
18	<b>31C4</b>	<b>31D1</b>			CJK BASIC STROKE SW
19	----	<b>31D2</b>			CJK BASIC STROKE ST
20	----	<b>31D3</b>			CJK BASIC STROKE PZ
21	----	<b>31D4</b>			CJK BASIC STROKE PD
22	----	<b>31D5</b>			CJK BASIC STROKE PG
23	<b>31C1</b>	<b>31D6</b>			CJK BASIC STROKE WG
24	<b>31C2</b>	<b>31D7</b>			CJK BASIC STROKE XG
24*	<b>31C3</b>	<b>31D8</b>			CJK BASIC STROKE WOG
25	<b>31C5</b>	<b>31D9</b>			CJK BASIC STROKE HZZ

**Table 3: Consolidated Repertory, Unified Order**

#	PDAMI	USV	Form	Unified	Name
26	<b>31CD</b>	<b>31DA</b>			CJK BASIC STROKE HZW
27	<b>31CA</b>	<b>31DB</b>			CJK BASIC STROKE HZT
28	<b>31C6</b>	<b>31DC</b>			CJK BASIC STROKE HZG
29	----	<b>31DD</b>			CJK BASIC STROKE HXG
30	----	<b>31DE</b>			CJK BASIC STROKE SZZ
31	----	<b>31DF</b>			CJK BASIC STROKE SZP
32	----	<b>31E0</b>			CJK BASIC STROKE SWG
33	<b>31CE</b>	<b>31E1</b>			CJK BASIC STROKE HZZZ
34	<b>31CB</b>	<b>31E2</b>			CJK BASIC STROKE HZZP
35	<b>31C8</b>	<b>31E3</b>			CJK BASIC STROKE HZWG
36	<b>31CC</b>	<b>31E4</b>			CJK BASIC STROKE HPWG
37	<b>31C9</b>	<b>31E5</b>			CJK BASIC STROKE SZZG
38	----	<b>31E6</b>			CJK BASIC STROKE HZZZG

**Table 3: Consolidated Repertory, Unified Order**











































#	<i>PDAMI</i>	<i>USV</i>	<i>Form</i>	<i>Unified</i>	<i>Name</i>
39	----	<b>31E7</b>			CJK BASIC STROKE O

Table 4: CJK Basic Strokes: Unified Repertory, Ordering, and Names

	31C	31D	31E	
0	 31C0	 31D0	 31E0	<b>31C0</b> — CJK BASIC STROKE H
1	 31C1	 31D1	 31E1	<b>31C1</b> / CJK BASIC STROKE T <b>31C2</b>   CJK BASIC STROKE S <b>31C3</b> ↓ CJK BASIC STROKE SG <b>31C4</b> / CJK BASIC STROKE P
2	 31C2	 31D2	 31E2	<b>31C5</b> / CJK BASIC STROKE WP <b>31C6</b> J CJK BASIC STROKE SP <b>31C7</b> \ CJK BASIC STROKE D
3	 31C3	 31D3	 31E3	<b>31C8</b> \ CJK BASIC STROKE N <b>31C9</b> \ CJK BASIC STROKE DN <b>31CA</b> ㄥ CJK BASIC STROKE PN <b>31CB</b> ㄨ CJK BASIC STROKE TN <b>31CC</b> ㄣ CJK BASIC STROKE TPN
4	 31C4	 31D4	 31E4	<b>31CD</b> ㄐ CJK BASIC STROKE HZ <b>31CE</b> ㄑ CJK BASIC STROKE HP <b>31CF</b> ㄒ CJK BASIC STROKE HG
5	 31C5	 31D5	 31E5	<b>31D0</b> ㄒ CJK BASIC STROKE SZ <b>31D1</b> ㄓ CJK BASIC STROKE SW <b>31D2</b> ㄔ CJK BASIC STROKE ST
6	 31C6	 31D6	 31E6	<b>31D3</b> ㄔ CJK BASIC STROKE PZ <b>31D4</b> ㄕ CJK BASIC STROKE PD <b>31D5</b> ㄖ CJK BASIC STROKE PG <b>31D6</b> ㄗ CJK BASIC STROKE WG <b>31D7</b> ㄘ CJK BASIC STROKE XG <b>31D8</b> ㄙ CJK BASIC STROKE WOG
7	 31C7	 31D7	 31E7	<b>31D9</b> ㄚ CJK BASIC STROKE HZZ <b>31DA</b> ㄛ CJK BASIC STROKE HZW <b>31DB</b> ㄜ CJK BASIC STROKE HZT <b>31DC</b> ㄝ CJK BASIC STROKE HZG <b>31DD</b> ㄞ CJK BASIC STROKE HXG <b>31DE</b> ㄟ CJK BASIC STROKE SZZ <b>31DF</b> ㄠ CJK BASIC STROKE SZP
8	 31C8	 31D8		<b>31E0</b> ㄡ CJK BASIC STROKE SWG <b>31E1</b> ㄣ CJK BASIC STROKE HZZZ <b>31E2</b> ㄤ CJK BASIC STROKE HZZP <b>31E3</b> ㄥ CJK BASIC STROKE HZWG <b>31E4</b> ㄦ CJK BASIC STROKE HPWG <b>31E5</b> ㄧ CJK BASIC STROKE SZZG <b>31E6</b> ㄨ CJK BASIC STROKE HZZZG <b>31E7</b> ㄩ CJK BASIC STROKE O
9	 31C9	 31D9		
A	 31CA	 31DA		
B	 31CB	 31DB		
C	 31CC	 31DC		
D	 31CD	 31DD		
E	 31CE	 31DE		
F	 31CF	 31DF		